U.S. Department of Energy
Washington, D.C.

ORDER

DOE O 461.1A

Approved: 4-26-04
Review: 4-26-06

SUBJECT: PACKAGING AND TRANSFER OR TRANSPORTATION OF MATERIALS OF NATIONAL SECURITY INTEREST

1. OBJECTIVE. To establish requirements and responsibilities for offsite shipments of naval nuclear fuel elements, Category I and Category II special nuclear material (SNM), nuclear explosives, nuclear components, special assemblies, and other materials of national security interest; onsite transfers of naval nuclear fuel elements, Category I and II SNM, nuclear components, special assemblies and other materials of national security interest; and certification of packages for Category I and II SNM, nuclear components, and other materials of national security interest.

2. CANCELLATIONS. DOE O 461.1, *Packaging and Transfer or Transportation of Materials of National Security Interest,* dated 9-29-00. Cancellation of a directive does not, by itself, modify or otherwise affect any contractual obligation to comply with such a directive. Cancelled directives incorporated by reference in a contract remain in effect until the contract is modified to delete the reference to the requirements in the cancelled directives.

3. APPLICABILITY.

   a. Primary DOE Organizations, Including National Nuclear Security Administration (NNSA) Organizations. Except for the exclusions in paragraph 3C, this Order applies to any of those Primary DOE Organizations that have responsibility for offsite shipments of naval nuclear fuel elements, Category I and Category II SNM, nuclear explosive, nuclear components, special assemblies, and other materials of national security interest; onsite transfers of naval nuclear elements, Category I and II SNM, nuclear components, special assemblies, and other materials of national security interest; or packaging and certification of packages for Category I and II SNM, nuclear components, and other materials of national security interest. (See Attachment 1 for a complete list of Primary DOE Organizations. This list automatically includes Primary DOE Organizations created after the Order is issued.)

   Note that only the NNSA Administrator can direct NNSA employees. Wherever this Order gives direction to NNSA employees, it should be understood that this direction is provided only for the convenience of the Administrator and is not intended to assume or replace the authority of the Administrator's direction.

   b. Site/Facility Management Contracts.

      (1) Except for the exclusions noted in paragraph 3c, the contractor requirements document (CRD), Attachment 2, sets forth the requirements of this Order that will apply to site/facility management contracts that include the CRD.

(2) This CRD must be included in site/facility management contracts under which the following operations are performed: design, testing, and analysis of packages for the transfer or transportation of materials of national security interest; preparation of safety analysis reports for packaging (SARPs) for review and eventual certification of packages for offsite transport of those materials; preparation of Transportation System Risk Assessments (TSRAs) and/or Hazards Analysis Reports (HARs) for offsite transportation authorizations; preparation of materials of national security interest for loading into shipping packages and packaging the materials in the packages; loading the packages into transport vehicles designated for transfer or transportation and securing them to the transport vehicles; performing onsite transfers of national security materials; preparing schedules for national security shipments; making agreements with receivers regarding when shipments can be accepted; unloading transfer and transport vehicles; storing unloaded packages; opening the sealed packages and performing authorized operations.

(3) This CRD does not apply to other than site/facility management contracts. (Any application of any requirements of this Order to other than site/facility management contracts will be communicated by issuance in the Department of Energy Acquisition Regulation, through the regulatory process, of an appropriate contract clause).

(4) Field organization managers (which include operations office, site office, area office, project office, and service center managers) are responsible for notifying the contracting officers of which site/facility management contracts are affected. Once notified, the contracting officers are responsible for incorporating the CRD into the affected site/facility management contracts via the laws, regulations, and DOE directives clause of those contracts.

(5) As the laws, regulations, and DOE directives clause of site/facility management contracts states, regardless of the performer of the work, site/facility management contractors with the CRD incorporated into their contracts are responsible for compliance with the requirements of the CRD. An affected site/facility management contractor is responsible for flowing down the requirements of this CRD to subcontracts at any tier to the extent necessary to ensure the site/facility management contractor's compliance with the requirements. In doing so, the contractor must not unnecessarily or imprudently flow down requirements to subcontracts. That is, the contractor shall (1) ensure that it and its subcontractors comply with the requirements of this CRD and (2) only incur costs that would be incurred by a prudent person in the conduct of competitive business.

c. Exclusions. This Order does not apply to the following.

(1) Facilities and packaging, transfer, or transportation activities regulated or controlled by the Nuclear Regulatory Commission (NRC).

(2) Packaging, transfer and transportation, and any other activity related to shipments to a repository mandated by and constructed by the Office of Civilian Radioactive Waste Management pursuant to the Nuclear Waste Policy Act, as amended.

(3) Packaging and transportation of hazardous materials subject to DOE O 460.1B, *Packaging and Transportation Safety,* dated 4-04-03, and DOE O 460.2, Chg 1, *Departmental Materials Transportation and Packaging Management,* dated 10-26-95.

(4) Packaging activities conducted under the authority of the Director, Naval Nuclear Propulsion Program, as described in Public Law 98-525.

(5) Department of Defense Primary Nuclear Airlift Force, which is subject to Department of Defense directives when performing Category I and Category II SNM shipments in coordination with the Office of Secure Transportation.

4. REQUIREMENTS.

a. Packaging and Transportation Procedures. Each site must maintain a set of packaging and transportation procedures, approved by the appropriate DOE field organization (including operations offices, site offices, area offices, project offices, and service centers) that will provide the regulations, controls, and guidance to be followed for the packaging and transportation of hazardous materials, both for transfer within the site boundaries and for transportation from the site. This set of procedures is referred to as the site's (or contractor's) Transportation Safety Document (TSD).

b. Offsite Packaging and Transport.

(1) Packaging and Shipment Authorization.

Packaging and shipping for all materials of national security interest must be performed under methods that are specifically authorized for that material in a DOE/NNSA-issued Offsite Transportation Certificate (OTC) or Offsite Transportation Authorization (OTA), a certificate of compliance (CofC) issued by a competent authority such as DOE or NRC, or an exemption granted by the Deputy Administrator for Defense Programs.

(a) Packages authorized by DOE or NNSA under the requirements of 49 CFR 173, "U.S. Government Material," or packages that are

compliant with the following Department of Transportation (DOT) and NRC regulations fulfill the packaging safety requirements of this Order:

1 Title 10 CFR, Part 71, "Packaging and Transportation of Radioactive Material," and

2 Title 49 CFR, Parts 100–185, "Research and Special Programs Administration, Department of Transportation."

(b) Packages for nuclear components must use a packaging and shipment method authorized by a DOE/NNSA-issued OTC or OTA. OTCs and OTAs will be approved in accordance with DOE Safety Guide (SG) 500, *Defense Programs Package Certification and Offsite Transportation Authorization Guide* (current revision).

Requests for OTCs or OTAs must include supporting documentation.

1 For an OTC request, a SARP that conforms with NRC Regulatory Guide 7.9, *Standard Format and Content of Part 71 Applications for Approval of Packaging for Radioactive Material,* must be submitted. The SARP should demonstrate that the package complies with the applicable requirements of the following:

- Title 10 CFR, Part 71, "Packaging and Transportation of Radioactive Material," and
- Title 49 CFR, Parts 100–185.

2 For an OTA request, the OTA must document shipment package and loading configurations, designated routes, and campaign duration. Additionally, a Transportation Safety Risk Assessment (TSRA) or a Hazards Analysis Report (HAR), as specified below, must be submitted in support of the OTA request.

- A TSRA is a document that records the hazards, the assessment of the hazards, the analysis methods, and actual analysis and results used to determine the probability and consequences of undesired but credible events that could pose risks to the workers, public and/or the environment during the proposed offsite transportation of an uncertified package or a special assembly that contains a Type B quantity of

radioactive material in a prescribed transportation system and routes.

- A HAR for nuclear weapon special assemblies that contain less than a Type B quantity of radioactive material or no radioactive material but must be shipped via the Transportation Safeguards System (TSS). A HAR is a document that contains a list of each of the special assembly's components that contains hazardous material and the associated quantities of each hazardous material contained in each component; identifies the proposed packaging and handling gear for each special assembly; identifies the proposed transportation modes (ground and/or air) and transport vehicles; a list of all potential shipping destinations; the applicable tie-down procedures for securing each special assembly, in its proposed configuration (packaging/handling gear), to the shipping conveyance; copies of all top level drawings that define the configuration and content of the special assembly; information on whether the shipments will be pretest or posttest; descriptions of the tests that the special assembly is scheduled to undergo between each shipping segment (if applicable); the planned posttest status of components that contain hazardous material; an analysis of the potential hazards and associated consequences posed by the hazardous material in the proposed shipping configurations; and copies of the pretest and posttest procedures that will be used to ensure that the special assembly is safe to ship.

3 A Transportation Safety Review Panel (TSRP), composed of subject matter experts and chaired by a Federal employee, will review the application for an OTC or OTA and document the TSRP's recommendation for approval/disapproval in a Safety Evaluation Report (SER).

4 Each organization involved in a packaging and/or shipment activity authorized by an OTC or OTA must maintain a copy of the OTC/OTA and the supporting documentation.

(c) All offsite shipments of packages or special assemblies which contain a Type B quantity of radioactive material, which are not authorized for packaging and offsite shipment under a current

OTC, OTA, or NRC or DOE CofC and which cannot be shown to meet the requirements of 10 CFR 71 and/or 49 CFR 100-185, but which must still be shipped offsite in the interest of national security can be packaged and shipped offsite only if the Deputy Administrator for Defense Programs grants an exemption to this Order that specifically authorizes the packaging and offsite shipment of that material. Refer to paragraph 4i for additional information on exemptions to this Order.

(2) Transport.

(a) As specified in paragraph 4b(1) of this Order, each shipment of nuclear components, naval nuclear fuel elements, Category I and Category II SNMs, special assemblies, and other materials of national security interest must be prepared and transported in accordance with the applicable hazardous materials regulations (49 CFR, Parts 100–185) and applicable State, tribal, and local regulations not preempted by DOT.

(b) All transportation activities performed under the Transportation Safeguards System (TSS) will be conducted according to10 CFR 830.

(c) Government or contractor vehicles (owned or leased) used to transport cargo of national security interest offsite must be approved by the Office of Secure Transportation (OST) and must be operated in compliance with the applicable Federal Motor Carrier Safety Regulations (FMCSRs) (49 CFR 350–399) and State, tribal, and local regulations not preempted by DOT.

(d) In addition to the hazardous materials regulations for "Carriage by Aircraft" (49 CFR 175), all transportation operations by aircraft must follow the requirements of DOE O 440.2B, *Aviation,* dated 11-27 -02.

(e) Transportation of nuclear explosives must meet the requirements of DOE O 452.1B, *Nuclear Explosive and Weapon Surety Program,* dated 8-6-01, and DOE O 452.2B, *Safety of Nuclear Explosive Operations,* dated 8-7-01.

c. Onsite Packaging and Transfer.

(1) Subject to the additional requirements in paragraphs 4c(2) and 4c(3) below, packaging and transfer of materials of national security interest that do not affect public commerce must provide a level of protection that is substantively equivalent or identical to that provided by DOT

regulations for packaging and transportation of hazardous materials, based on the work and the hazards.

(2) Onsite packaging and transfer of nuclear components and special assemblies must comply with DOE M 461.1-1, *Packaging and Transfer of Materials of National Security Interest*, dated 9-29-00. Such onsite operations must also comply with a contractor's TSD.

(3) Onsite operation of motor vehicles must comply with applicable FMCSRs.

(4) Onsite transfers of nuclear explosives must comply with DOE O 452.2B and DOE O 452.1B.

d. Scheduling Transportation Safeguards System Shipments.

(1) Long-term (10-year) forecasts of shipping requirements will be provided to the Secure Transportation Steering Committee (STSC) each year with a copy to the Assistant Deputy Administrator for Secure Transportation (ADAST) by each program Secretarial Officer (PSO) that requires OST shipments to perform program operations.

(a) These forecasts will contain the following information: program office responsible for shipment; shipping site; receiving site; material being shipped and form in which it is to be shipped (metal, oxide, etc.); package to be used; number of packages to be shipped each month of the planned window; confidence the shipment can be supported by the shipper (high, medium, low); and classification of the shipping information provided.

(b) The STSC will recommend priorities for the scheduling of shipments, subject to the review and approval of the Secure Transport Asset Advisory Board (STAAB), a senior management group chaired by the Principal Assistant Deputy Administrator for Military Applications.

(2) The PSO or designee will provide a detailed 2-year packaging/shipping forecast each quarter to the STSC with a copy to the ADAST.

(3) The cognizant program offices must develop and submit a Transportation Commitment Request (TCR) for each scheduled shipment to the STSC, the ADAST and the proposed shippers and receivers at least 3 months before the expected shipping date. This is intended to verify/confirm shipping schedules for the next quarter with a degree of confidence.

(a) The TCR includes the following information: the type and quantity of material being shipped, the availability and deadline delivery

dates for the shipment, the points of contact at the shipper/receiver sites, and any special programmatic requirements for the shipment.

(b) The TCR will include a monthly resolution of the requested workload for the following 3 months.

(c) The form and content of these mid- and short-range plans are the same as the long-term forecasts, but the information is expected to be more accurate and reliable.

(4) All shippers will provide preliminary and final Transportation Shipping Requests (TSRs) to OST with a copy to their STSC representative no less than 60 days before the scheduled shipping dates.

(a) For TSRs submitted before coordination between shipper and receiver is complete, shippers will only fill out those TSR blocks that can be completed accurately.

(b) The TSR information must be completed 30 days before the scheduled shipping date to be considered for convoy deployment.

(5) Requests for variances to the TSS scheduling requirements must be submitted to the STSC, with a copy to the ADAST, for approval.

(6) Blank forms and guidance for their completion will be obtained from OST.

e. Training. All personnel who manage, supervise, support, and/or perform packaging, transfer, and transport operations must be appropriately trained and qualified.

(1) Training programs and procedures for the safe packaging, transfer, and transportation of nuclear components, special assemblies, and radioactive material associated with the Nuclear Weapons Program will be developed and implemented. The training programs must comply with the applicable basic hazmat training requirements of 49 CFR 172.704.

(2) Auditable training records must be maintained.

f. Packaging, Transfer, and Transportation Plans. Packaging, transfer, and transportation activities authorized by this Order must be conducted in accordance with a quality assurance plan that includes self-assessment and a packaging, transfer, and transportation plan for these activities. Any work performed under these plans will conform to DOE P 450.4, *Safety Management System Policy,* dated 10-15-96.

g. Safeguards and Security.

(1) Safeguards and security requirements for offsite transport and onsite transfers of materials are found in the following directives:

(a) DOE O 470.1, *Safeguards and Security Program,* dated 9-28-95;

(b) DOE O 471.2A, *Information Security Program,* dated 3-27-97;

(c) DOE M 471.2-1C, *Classified Matter Protection and Control Manual,* dated 4-17-01;

(d) DOE O 473.2, *Protective Force Program,* dated 6-30-00;

(e) DOE O 474.1A, *Control and Accountability of Nuclear Materials,* dated 11-20-00; and

(f) DOE M 474.1-1B, *Manual for Control and Accountability of Nuclear Materials,* dated 6-13-03.

(2) The safeguards and security requirements in the following directives also apply to onsite transfers.

(a) DOE O 473.1, *Physical Protection Program,* dated 12-23-02;

(b) DOE M 473.1-1, *Physical Protection Program Manual*, dated 12-23-02; and

(c) 10 CFR 712, "Human Reliability Program," dated 1-23-04.

h. Documents/Records. Documents and records specified in this Order will be maintained according to DOE-/National Archives and Records Administration-approved records retention and disposition schedules.

i. Exemptions. Exemptions to this Order may be granted provided the proposed exemptions are not prohibited by law and do not present an undue risk to the environment, public health and safety, or workers.

(1) Requests for exemptions received from contractors by the local site/area office will be submitted in writing by the office to the NNSA Deputy Administrator for Defense Programs.

(2) Exemption decisions will be set forth in writing and must state the reasons for granting or denying the exemption and, if granted, the basis for determining it does not present an undue risk to the environment, public health and safety, or workers.

5. RESPONSIBILITIES.

a. Administrator, National Nuclear Security Administration, ensures requirements and responsibilities are implemented and executed in accordance with this Order.

b. Program Secretarial Officers.

(1) Provide 10-year and detailed 2-year packaging/shipping projections and updates as required in paragraph 4 of this Order.

(2) Provide TCRs as required in paragraph 4 of this Order.

(3) Assign a representative to the STSC and the STAAB.

c. Deputy Administrator for Defense Programs.

(1) Assigns line management responsibilities.

(2) Grants or denies exemptions from requirements in this Order.

(3) Provides overall management and policy direction for NNSA packaging activities and conduct of TSS operations.

(4) Initiates and, when appropriate, provides oversight of safety appraisals of NNSA packaging activities for, and conduct of, TSS operations.

d. Principal Assistant Deputy Administrator for Military Applications chairs the STAAB.

e. Assistant Deputy Administrator for Military Application and Stockpile Operations.

(1) For NNSA, directs stockpile management packaging activities.

(2) Coordinates with appropriate DOE organizations in the development of standards for packaging.

(3) Coordinates with appropriate DOE organizations in the development of packagings that can fulfill requirements other than NNSA requirements.

f. Director, Office of Security.

(1) Develops DOE directives for safeguards and security of nuclear materials and security of classified information, work, and materials.

(2) Conducts safeguards and security technology development for TSS needs.

g. Chief, Defense Nuclear Security (NNSA).

(1) Advises the Deputy Administrator for Defense Programs on the adequacy of DOE and contractor safeguards and security programs.

(2) Advises the Deputy Administrator for Defense Programs on safeguards and security requirements for packaging and transportation of Category I and II SNM, special assemblies, classified configurations of nuclear weapons systems, and other materials under the programmatic jurisdiction of NNSA.

(3) Establishes security programs and requirements for coordinating with the Department of Defense and other Federal agencies in the recapture and recovery of nuclear explosives and nuclear weapons.

(4) Submits requests for variances to TSS shipping schedules.

h. Field Organization Managers.

(1) Ensure that SARPs and TSRAs, as applicable, are submitted to the NNSA Services Center's National Security Department (NSD) at least 9 months before the first required shipment date.

(2) Ensure HARs are submitted to the NNSA Service Center's NSD at least 2 months before the first required shipment date. As the HAR is not used for fissile contents, the review period is much shorter.

(3) Provide subject matter experts to serve as members on TSRPs.

(4) Provide support to external organizations conducting safety appraisals at DOE operations/field offices, area/site offices, and contractor sites/facilities.

(5) Maintain current copies of all OTCs, OTAs, and certificates of compliance and their respective SERs for packaging and transfer operations performed at their sites and/or by contractors they manage.

(6) Conduct management appraisals of packaging and transportation safety programs under their cognizance at least every 24 months.

(7) Ensure all personnel who support and/or perform packaging and transportation operations are trained and qualified.

(8) Ensure the site has DOE personnel that are assigned and trained to oversee compliance with the requirements of this Order and that oversight is performed and documented.

(9) Review contractor packaging procedures and quality assurance plans related to packages/packagings that contain a Type B quantity of radioactive material before their submission to the NNSA Service Center's NSD for review and approval.

(10) Review and approve contractor packaging and transportation plans.

(11) Review, and assess the adequacy of, tie-down procedures used in contractor-operated conveyances used onsite.

(12) Use and promote the use of the protocols contained in SG 500, and ensure the implementation of applicable DOE Orders and Manuals in the conduct of operations that are governed by this Order.

(13) Ensure current versions of directives are included in contracts with contractors who prepare items for shipment in the TSS, ship items in the TSS, operate OST-approved vehicles, and/or use DOE/NNSA package certification and/or offsite transportation authorization products and services.

(14) Notify contracting officers when this Order applies to specific contracts, and ensure the CRD is incorporated, as appropriate.

(15) Review and forward, via the NNSA Service Center, contractor requests for exemptions from the requirements of this Order to the Deputy Administrator for Defense Programs.

(16) Ensure TSRs are submitted to OST on a timely basis to facilitate movement of national security materials on planned shipment dates.

i. Assistant Deputy Administrator for Secure Transportation.

(1) Manages and operates TSS, which is used for safely and securely transporting all DOE owned or acquired nuclear explosives, nuclear components, naval nuclear fuel elements, Category I and Category II SNM, special assemblies, and other cargo deemed appropriate by responsible program elements and receiving approval for shipment from the appropriate authorities.

(2) Periodically provides reports concerning OST operations, financial status, and performance to the Deputy Administrator for Defense Programs.

(3) Develops and implements a TSS training program in accordance with DOE O 360.1B, *Federal Employee Training,* dated 10-11-01.

(4) Plans and conducts annual safety, security, and emergency management readiness self-assessments of the TSS.

(5) Documents, approves, and implements policies and operating procedures for the TSS through management directives or standard operating procedures, and ensures operating procedures include procedures for responding to any event, unusual occurrence, or emergency in accordance with DOE O 151.1B, *Comprehensive Emergency Management System,* dated 10-29-03.

(6) Provides host sites applicable emergency management documentation to enable them to fulfill their emergency response requirements for TSS shipments while located at their sites.

(7) Updates and approves the Transportation Safety Analysis Report of TSS operations pursuant to 10 CFR 830.

(8) Ensures applicable provisions of the Safeguards and Security Program and Comprehensive Emergency Management System are implemented within OST.

(9) Implements the OST requirements in DOE O 473.2.

(10) Authorizes the use of any government or contractor vehicle (owned or leased) used in offsite transportation of materials of national security interest.

j. Director, NNSA Service Center.

(1) Implements directives, procedures, and guidelines for field organizations to conduct safety and/or risk analyses of requested transportation configurations to ensure the reports of those analyses are usable by the TSRP in its review of OTC/OTA requests.

(2) Convenes and appoints chairs of federally chaired TSRPs to review applications for OTCs and OTAs and to document recommendations for approval/disapproval in an SER.

(3) Approves and issues OTCs and OTAs for packages used to ship nuclear components, special assemblies, and NNSA-owned or NNSA-controlled materials.

(4) Maintains a copy of the following:

(a) all currently approved HARs, OTCs, OTAs, SARPs, SERs, TSRAs, and other supporting documentation and

(b) all current certificates of compliance for packages used in TSS.

(5) Reviews and approves, through the NSD, the sites' quality assurance plans and packaging procedures for Type B packages.

(6) Ensures all personnel that perform package certification and offsite transportation authorization functions are trained and qualified.

(7) Provides support to external organizations conducting DOE/NNSA safety appraisals of packaging and transportation operations.

(8) Reviews and assesses the impact of proposed tie-down procedures on the safety of packages transported offsite.

(9) Reviews, provides recommendations regarding, and forwards contractor requests for exemptions from the requirements of this Order to the Deputy Administrator for Defense Programs.

k. Deputy Administrator for Naval Reactors.

(1) In accordance with the responsibilities and authorities assigned by Executive Order 12344 (statutorily prescribed by 42 U.S.C. 7158, note) and to ensure consistency throughout the joint Navy/DOE organization of the Naval Nuclear Propulsion Program, implements and oversees all policies and practices pertaining to this Order for activities under the cognizance of Naval Reactors.

(2) Establishes and implements special arrangements for shipments of Category I and Category II quantities of SNM (as defined in DOE M 474.1-1B) to or from facilities of the Naval Reactors Program, including coordinating with OST for appropriate support of shipments.

l. Shipment Originators provide TSRs as required in paragraph 4d of this Order.

m. Contracting Officers incorporate the CRD into affected site/facility management contracts when so notified by field organization managers.

6. REFERENCES.

a. DOE Safety Guide 500, *Defense Programs Package Certification and Offsite Transportation Authorization Guide,* current revision.

b. DOE O 151.1B, *Comprehensive Emergency Management System,* dated 10-29-03.

c. DOE O 360.1B, *Federal Employee Training,* dated 10-11-01.

d. DOE O 440.2B, *Aviation,* dated 11-27-02.

e. DOE P 450.4, *Safety Management System Policy,* dated 10-15-96.

f. DOE O 452.1B, *Nuclear Explosive and Weapon Surety Program,* dated 8-6-01.

g. DOE O 452.2B, *Safety of Nuclear Explosive Operations,* dated 8-7-01.

h. DOE O 460.1B, *Packaging and Transportation Safety,* dated 4-04-03.

i. DOE O 460.2B, *Departmental Materials Transportation and Packaging Management,* dated 4-04-03.

j. DOE M 461.1-1, *Packaging and Transfer of Materials of National Security Interest,* dated 9-29-00.

k. DOE P 470.1, *Integrated Safeguards and Security Management (ISSM) Policy,* dated 5-08-01.

l. DOE O 470.1, *Safeguards and Security Program,* dated 9-28-95.

m. DOE O 471.2A, *Information Security Program,* dated 3-27-97.

n. DOE M 471.2-1C, *Classified Matter Protection and Control Manual,* dated 4-17-01.

o. DOE O 473.2, *Protective Force Program,* dated 6-30-00.

p. DOE O 474.1A, *Control and Accountability of Nuclear Materials,* dated 11-20-00.

q. DOE M 474.1-1B, *Manual for Control and Accountability of Nuclear Materials,* dated 6-13-03.

r. DOE O 473.1, *Physical Protection Program*, dated 12-23-02.

s. DOE M 473.1-1, *Physical Protection Program Manual,* dated 12-23-02.

t. NRC Regulatory Guide 7.9, *Standard Format and Content of Part 71 Applications for Approval of Packaging for Radioactive Material.*

u. Title 10 CFR, Part 71, "Packaging and Transportation of Radioactive Material."

v. Title 10 CFR 712, "Human Reliability Program."

w. Title 49 CFR, Parts 100–185, "Research and Special Programs Administration, Department of Transportation."

x. Title 49 CFR, Parts 350–399, "Federal Motor Carrier Safety Administration, Department of Transportation."

7. DEFINITIONS.

a. Campaign. A series of shipments, made over a predetermined time period in support of a common objective, that have similar cargos, packaging, tie-down configurations, and conveyances. The approval to conduct a campaign may further increase route restrictions or specify administrative measures to reduce or eliminate risks deemed acceptable in normal operations.

b. Category. A designation (Category I, II, III, or IV) of special nuclear material (SNM) determined by both the quantity and type of SNM or of an SNM location based on the type and form of the SNM and the amount of SNM present. DOE M 474.1-1A provides precise guidance for determining SNM categories.

c. Defense Programs Package Certification and Offsite Transportation Authorization Guide. This Guide is also referred to as Safety Guide (SG) 500. SG 500 establishes and disseminates the protocols used by the DOE/NNSA organizations and individuals that process and approve/disapprove package certification and offsite shipment authorization requests, and time-proven protocols for the users DOE/NNSA packaging certification and offsite transportation authorization products and services. The protocols in SG 500 are designed to assist the users in complying with the applicable Federal regulatory and DOE directive requirements. The protocols, except for the Federal regulatory and DOE directive requirements, are not mandatory and should not be construed as contractual requirements in any audit or appraisal. However, applicants for and users of DOE/NNSA package certification and offsite transportation authorization services and products who choose to deviate from the protocols do so at the risk of not having a certified package and/or offsite shipment authorization in time to support their needs or not being authorized to use a currently certified package.

d. Event. A condition requiring a Transportation Safeguards System response that could occur at a remote location (e.g., hazardous weather or impassable road).

e. Exemption. An exemption is a written permission to perform activities which do not comply with the requirements of this Order. Application for an exemption is approved or disapproved by the Deputy Administrator for Defense Programs and must not be prohibited by law or present an undue risk to the environment, public health and safety, or workers. [See 4.i. and 5.c.(2).]

f. Hazardous Components. Those parts of nuclear explosives or special assemblies that contain hazardous (other than radioactive) materials as defined in 49 CFR 100-185.

g. Hazards Analysis Report. A document, prepared and submitted by an applicant to the NNSA Service Center, that supports the applicant's request for an authorization to ship offsite special assemblies that contain less than a Type B quantity of radioactive material or contain no radioactive material but contain regulated hazardous materials.

h. Hazmat. Hazardous material.

i. Nuclear Components. Those parts of a nuclear explosive, special assembly, test part, or subassembly that contain fissile and/or radioactive and other materials.

j. Nuclear Explosive. An assembly containing fissile and/or fusible materials and main charge high-explosive parts or propellants capable of producing a nuclear detonation (e.g., a nuclear warhead or test device).

k. Office of Secure Transportation. An NNSA organization under the supervision of the Assistant Deputy Administrator for Secure Transportation. It provides the

secure transportation of materials of national security interest. Its employees are Federal employees and its equipment is Government owned.

l. Offsite. Any area within or outside the boundaries and jurisdiction of a DOE facility to which the general public has free and uncontrolled access.

m. Offsite Transportation Authorization (OTA). An NNSA-prepared approval that details a regulatory equivalent transportation configuration, authorized contents, regulatory (addressed by Federal regulations) and emergency response hazards, and transportation restrictions. An OTA always stipulates specific conditions of operations, including required transporter and shipment configuration. An OTA may detail required positive measures, administrative controls, and a declared maximum number of cargoes per calendar year. An OTA may be issued for a one-time shipment or for a transportation campaign over a period of time not to exceed 5 years. An OTA is issued because, upon review by the NNSA package certifying authority, the requirements for issuance of an Offsite Transportation Certificate could not be practically achieved.

n. Offsite Transportation Certificate (OTC). An NNSA-prepared document, analogous to an NRC certificate of compliance, that describes the Type B regulatory compliant package configuration, authorized contents, and transportation restrictions. An OTC authorizes shipment of Type B cargo within the NNSA-operated transportation system (Transportation Safeguards System). To ensure shipments are handled in compliance with germane DOE/NRC regulatory limits, an OTC may declare essential positive measures, administrative controls, and a maximum number of specified packages per transporter. Issuance of an OTC is demonstration of compliance with all essential requisites of public law for the transport of radioactive material, as required by 49 CFR 173.7(d). It may be issued for either a one-time use or multiple uses up to 5 years, at which point it must be renewed.

o. Onsite. Any area within the boundaries of a DOE site or facility to which access is controlled.

p. Other Materials of National Security Interest. Miscellaneous components and materials forms that are recommended for transportation via TSS by responsible program elements and approved for such transportation by the Deputy Administrator for Defense Programs.

q. Package. The packaging, together with its contents, as presented for transport and/or transfer.

r. Packaging. The assembly of components necessary to ensure compliance with the packaging requirements of 10 CFR 71. It may consist of one or more receptacles, absorbent materials, spacing structures, thermal insulation, radiation shielding, and devices for cooling or absorbing mechanical shocks during transfer

or transport. The conveyances, tie-down systems, and auxiliary equipment used in transport may sometimes be designated as part of the packaging.

s. Program Secretarial Officer. The Assistant Secretary/Director or Deputy Administrator who is responsible for the performance of a DOE or NNSA organization (i.e., Assistant Secretary for Environmental Management, Deputy Administrator for Defense Programs).

t. Projected Requirements for Transportation Safeguards System Shipments. Requirements for the time and estimated duration of shipping campaigns, the number of packages to be shipped, the number of trailers required, and certified packaging needs and availability with the anticipated schedule for certification and procurement of packagings not currently available.

u. Safety Analysis Report for Packaging (SARP). A SARP is a document that provides a comprehensive technical evaluation of a package. The SARP consists of sections on general information; structural, thermal, containment, shielding and criticality evaluations; operating procedures; acceptance tests, and maintenance and quality assurance programs. The purpose of the SARP is to demonstrate compliance with the applicable sections of 10 CFR 71 and 49 CFR 100-185.

v. Safety Evaluation Report. A document that provides the final results of the Transportation Safety Review Panel's safety evaluation including its independent review of the Hazards Analysis Report, Safety Analysis Report for Packaging and/or Transportation System Risk Assessment.

w. Shipment. An operational or logistical action involving offsite movement of nuclear explosives, nuclear components, special assemblies, or related radioactive and hazardous materials by the Department of Energy through the Transportation Safeguards System or any Assistant Deputy Administrator for Secure Transportation authorized government or contractor vehicle (owned or leased) used in offsite transportation of materials of national security interest.

x. Source Material. Natural uranium, depleted uranium and thorium.

y. Special Assembly. A major assembly of nuclear components that does not constitute a complete nuclear explosive and is not capable of producing a nuclear detonation. Special assemblies include joint test assemblies, laboratory test units, nuclear explosive-like assemblies, and trainers.

z. Special Nuclear Material (SNM).

(1) Plutonium, uranium enriched in the isotopes 233 or 235, and any other material that NRC, pursuant to Section 51 of the Atomic Energy Act, as amended, determines to be SNM, not including source material, or

(2) any material artificially enriched by any of the foregoing, not including source material.

aa. Subject Matter Expert. An individual recognized as having education, knowledge, skills, and experience in a technical specialty field. (For this Order, a subject matter expert in hazardous materials regulations in the packaging field is an individual skilled in one or more of the areas of nuclear criticality safety, containment, radiation shielding, thermal characterization, structural and materials analysis, quality assurance, or transportation risk analysis.)

bb. Transfer. Any onsite transport of material of national security interest, other than those authorized by applicable Bases for Interim Operations and operational safety requirements or safety analysis reports and Technical Safety Requirements, that does not affect public commerce.

cc. Transportation Commitment Request (TCR). A commitment letter from the cognizant program office that identifies requirements to ship specific commodities by the TSS and is submitted to the Office of Secure Transportation and the proposed shippers and receivers at least 3 months before the date on which the shipments are to start. For each shipment requested, the TCR provides the following information: the type and quantity of material being shipped, the availability and deadline delivery dates for the shipment, the points of contact at the shipper/receiver sites, and any special programmatic requirements for the shipment.

dd. Transportation Safeguards System. A DOE system managed and operated by the Office of Secure Transportation. It is used for the safe and secure movement of nuclear explosives, nuclear components, special assemblies, special nuclear materials, and other cargo deemed appropriate by responsible program elements and approved by the Deputy Administrator for Defense Programs. Such operations are authorized under the Atomic Energy Act and its amendments.

ee. Transportation Safety Document. A DOE/NNSA-approved, site-specific, set of plans and procedures that provide guidance, control, and definition for the performance of activities related to packaging, transfer, and transportation at the site.

ff. Transportation Safety Review Panel. A committee, chaired by a Federal employee and composed of persons with appropriate expertise, that performs technical reviews to verify compliance with this Order and makes recommendations for offsite transportation certification or authorization.

gg. Transportation Shipping Request. A document provided by the shipper to the Office of Secure Transportation and the receivers that includes the following information: shipment number, pickup and delivery points, delivery date, quantity and type of packages in shipment, security classification of shipment, the

authorization basis, special handling requirements, hazardous material information, approved confirmations from both shipper and receiver, 24-hour emergency response telephone numbers, cargo tie-down restraint configurations and name of the program office for which the shipment is being performed.

hh. Transportation System Risk Assessment. Formal documentation that records the hazards, the assessment of the hazards, the analysis methods, and actual analysis and results used to determine the probability and consequences of undesired but credible events that could pose risks to the workers, public and/or the environment during the proposed offsite transportation of an uncertified package or a special assembly that contains a Type B quantity of radioactive material in a prescribed transportation system and routes.

ii. Variance. Authorization to engage in an act that does not conform to the required procedure.

8. CONTACT. NNSA, Office of Operations and Construction Management, 301-903-9410.

BY ORDER OF THE SECRETARY OF ENERGY:

KYLE E. McSLARROW
Deputy Secretary

PRIMARY DOE ORGANIZATIONS

Office of the Secretary
Chief Information Officer
Departmental Representative to the Defense Nuclear Facilities Safety Board
Energy Information Administration
National Nuclear Security Administration
Office of Civilian Radioactive Waste Management
Office of Congressional and Intergovernmental Affairs
Office of Counterintelligence
Office of Economic Impact and Diversity
Office of Electric Transmission and Distribution
Office of Energy Assurance
Office of Energy Efficiency and Renewable Energy
Office of Environment, Safety and Health
Office of Environmental Management
Office of Fossil Energy
Office of General Counsel
Office of Hearings and Appeals
Office of Independent Oversight and Performance Assurance
Office of Intelligence
Office of Legacy Management
Office of Management, Budget and Evaluation/Chief Financial Officer
Office of Nuclear Energy, Science and Technology
Office of Policy and International Affairs
Office of Public Affairs
Office of Science
Office of Security
Office of Security and Safety Performance Assurance
Office of the Inspector General
Secretary of Energy Advisory Board
Bonneville Power Administration
Southeastern Power Administration
Southwestern Power Administration
Western Area Power Administration

CONTRACTOR REQUIREMENTS DOCUMENT

DOE O 461.1A, *PACKAGING AND TRANSFER OR TRANSPORTATION OF MATERIALS OF NATIONAL SECURITY INTEREST*

This Contractor Requirements Document (CRD) establishes requirements for Department of Energy (DOE) site/facility management contractors, including National Nuclear Security Administration (NNSA) contractors. Contractors must comply with the requirements listed in the CRD to the extent set forth in their contracts. Definitions for key terms used in this CRD are provided in Attachment 3 that follows this CRD.

Regardless of the performer of the work, contractors are responsible for compliance with the requirements of this CRD. Contractors are responsible for flowing down the requirements of this CRD to subcontracts at any tier to the extent necessary to ensure the contractor's compliance with the requirements. In doing so, the contractor must not unnecessarily or imprudently flow down requirements to subcontracts. That is, the contractor will (1) ensure that it and its subcontractors comply with the requirements of this CRD and (2) only incur costs that would be incurred by a prudent person in the conduct of a competitive business.

1. Contractors who offer materials of national security interest for offsite shipment must package and prepare those shipments in accordance with the requirements specified in a DOE/NNSA-issued Offsite Transportation Certificate (OTC) or Offsite Transport Authorization (OTA), a DOE- or Nuclear Regulatory Commission- (NRC-) issued Certificate of Compliance (CofC), or an exemption granted by the NNSA Deputy Administrator for Defense Programs (DADP), as applicable.

    a. For certified Type B packages, the contractor must comply with the requirements specified in a DOE/NNSA OTC or DOE or NRC CofC, as applicable. In addition, the contractor must be an authorized user of the package.

    b. For packagings with Type B content that are not compliant with the requirements of 49 CFR 100-185 and/or 10 CFR 71, the contractor must comply with the requirements of a DOE/NNSA-issued OTA or a DADP-issued exemption that specifically authorizes the use and offsite shipment of the package. The contractor must also be an approved user of the specific package.

    c. For nuclear weapon special assemblies, the contractor must comply with the requirements specified in the applicable DOE-/NNSA-issued OTA.

    Contractors who conduct or support offsite shipments of materials of national security interest are encouraged to use the guidance provided in DOE/NNSA Safety Guide (SG) 500, *Defense Programs Package Certification and Offsite Transportation Authorization* Guide*,* to avoid the risk of not obtaining the required authorization in time to meet their transport needs.

2. Contractors who request Type B package certifications/recertifications must support the request with a safety analysis report for packaging (SARP) that contains the proposed package's comprehensive technical evaluation. The SARP must consist of sections on general information; structural, thermal, containment, shielding, and criticality evaluations; operating procedures; acceptance tests, and maintenance and quality assurance programs. The purpose of the SARP is to demonstrate compliance with the applicable sections of 10 CFR 71 and 49 CFR 100-185.

3. The contractor must submit the SARP and supporting documents to the NNSA Service Center for review and approval. Additional details on this process are available in SG 500.

4. Contractors who request an OTA to ship Type B content in packaging that is not compliant with the requirements of 49 CFR 100-185 and/or 10 CFR 71 must supplement the documentation submitted to support the request with a Transportation System Risk Assessment (TSRA) that records the hazards, the assessment of the hazards, and the analysis methods, and actual analyses and results used to determine the probability and consequences of undesired but credible events that could pose risks to the workers, public and/or environment during the proposed offsite transportation of an uncertified package that contains a Type B quantity of radioactive material in a prescribed transportation system and routes. The contractor must submit the OTA request and supporting TSRA to the NNSA Service Center for review and approval. Additional details on this process are available in SG 500.

5. Contractors who request, but are denied, an OTA to ship Type B content in packaging that is not compliant with the requirements of 49 CFR 100-185 and/or 10 CFR 71 may apply for a DADP exemption.

   a. The exemption request must include evidence that the proposed shipment is not prohibited by law and a technical analysis that supports a conclusion that the packaging and transportation operations with the proposed package do not present an undue risk to the public health and safety, the environment, or the workers.

   b. The contractor must submit the request for exemption via the local field organization (which includes operations offices, site offices, project offices, and service centers) and the NNSA Service Center.

   c. The contractor may not commence any of the packaging or offsite transportation operations addressed in the exemption request until and unless DADP grants the exemption in writing, and the contractor has complied with all the requirements contained in the DADP exemption approval correspondence and other requirements that may be invoked by the local NNSA field organization and/or the NNSA Service Center.

      Additional details on this process are available in SG 500.

6. Contractors who request an OTA to ship a special assembly shall support the request with a TSRA or a Hazards Analysis Report (HAR), as applicable.

   a. Requests for an OTA to ship a special assembly that contains a Type B quantity of radioactive material offsite must be supported by a TSRA that records the hazards, the assessment of the hazards, and the analysis methods, and the actual analyses and results used to determine the probability and consequences of undesired but credible events that could pose risks to the workers, public and/or the environment during the proposed offsite transportation of a special assembly that contains a Type B quantity of radioactive material in a prescribed transportation system and routes.

   b. Requests for an OTA to ship a special assembly that contains less than a Type B quantity of radioactive material or no radioactive material must be support by a HAR. The HAR must contain a list of each of the special assembly's components that contains hazardous material and the associated quantities of each hazardous material contained in each component; the proposed packaging and handling gear for each special assembly; the proposed transportation mode (ground and/or air) and transport vehicle; a list of all proposed shipping destinations; the applicable tie-down procedures for securing each special assembly, in its proposed shipping configuration (packaging/handling gear), to the shipping conveyance; copies of all top level drawings that define the configuration and content of the special assembly; information on whether the shipments will be pretest and/or posttest; descriptions of the tests that the special assembly is scheduled to undergo between each shipping segment (if applicable); the planned posttest status of components that contain hazardous material; an analysis of the potential hazards and associated consequences posed by the hazardous material in the proposed shipping configurations; and copies of the pretest and posttest procedures that will be used to ensure that the special assembly is safe to ship.

   c. Contractors must submit their requests and supporting HARs or TSRAs to the NNSA Service Center for review and approval.

      Additional details on these processes are available in SG 500.

7. Contractors must maintain current copies of the OTCs, OTAs, DOE and/or NRC CofCs, and associated SERs, SARPs, TSRAs, HARs and other supporting documents and DADP exemptions applicable to their operations.

8. Contractors who must package a Type B quantity of radioactive material, in a certified Type B package or a package authorized via the process described in paragraph 3 or paragraph 4, for offsite shipment, must develop proposed packaging procedures and a quality assurance plan and submit them, through the local DOE field organization, to the NNSA Service Center for review and approval. The contractor will not be authorized to begin packaging or transportation operations until it has been designated an authorized user of that package by the NNSA Service Center, and the NNSA Service Center will not

designate the contractor an authorized user of the packages until the contractor's packaging procedures and quality assurance plan have been approved and all other relevant approvals (e.g., OTC, OTA, DADP exemption) have been granted.

9. Unless specifically directed by DOE, contractors preparing shipments of nuclear explosives, nuclear components, Naval nuclear fuel elements, Category I and Category II SNM, special assemblies and other materials of national security interest for the Transportation Safeguards System (TSS) need not comply with the placarding requirements of Title 49 CFR, Part 172, Subpart F.

10. A contractor that is a State agency not otherwise subject to DOT jurisdiction and any other DOE contractor who operates a Government or contractor vehicle (owned or leased) offsite in performance of contract activities must ensure that the operations comply with applicable Federal Motor Carrier Safety Regulations (FMCSR) (Title 49 CFR 350–399) and applicable State, tribal, and local regulations not preempted by DOT.

11. Contractors who use motor vehicles to transfer items of national security interest onsite must comply with the applicable FMCSR (49 CFR 350–399) requirements.

12. For all transportation operations by aircraft, contractors must follow the hazardous materials regulations contained in "Carriage by Aircraft," 49 CFR 175, and DOE O 440.2B, *Aviation,* dated 11-27-02.

13. Contractors who must use government or contractor owned or leased vehicles to perform NNSA offsite transportation operations of material of national security interest must request approval for these operations from the Office of Secure Transportation (OST), and the approval must be granted before the contractor is authorized to use these vehicles for offsite operations. The requests should be supported by documentation that provides detailed information about the proposed vehicle, including the tie-down system and how will attach to the vehicle, the proposed tie-down procedures that will be used to secure the proposed cargo to the vehicle, the analysis that proves the adequacy of the proposed tie-down procedures, the hazards associated with the operations and how these hazards will be mitigated, and the risks associated with the operations and what will be done to reduce those risks. The requests and associated approvals may cover single vehicle or multiple vehicles, and/or a single use or multiple uses over a specified period of time.

14. Each contractor must conduct offsite transportation activities under the TSS within the safety and risk operating envelope determined by 10 CFR 830 and Defense Programs directives.

15. Contractors who transfer nuclear components, special assemblies, or materials of national security interest onsite must develop, maintain, and comply with a field office-approved Transportation Safety Document (TSD) that details site-specific requirements and responsibilities, and with DOE M 461.1-1, *Packaging and Transfer of Materials of National Security Interest,* dated 9-29-00, which provides requirements for the content of the TSD.

16. Contractors must ensure all personnel who support and/or perform packaging, transfer, and transportation operations are trained and qualified to perform their assigned functions. The training program must comply with the applicable basic hazmat training requirements of 49 CFR 172.704.

17. Contractors must maintain auditable training records.

18. Contractors who engage in packaging, transfer, and/or transportation of materials of national security interest must conduct those activities in accordance with a TSD developed for those activities and approved by the manager of the operations, field, area, or site office.

19. Contractors will ensure their organizations develop and implement a formal oversight program and ensure oversight activities are performed and documented.

20. Contractors will ensure that their organizations perform annual self-assessments of activities covered by this CRD.

21. Contractors who propose items of national security interest for offsite shipment that do not have DOE approved tie-down procedures to secure the items to the transport vehicle must develop and analyze the proposed tie-down procedures and submit the proposed tie-down procedures and the associated analysis to OST for approval with a copy to the NNSA Service Center's National Security Department.

22. Contractors must submit Transportation Shipment Requests (TSRs) in a format defined by OST. The TSRs must be submitted to OST no later than 60 days before the requested shipping date. For TSRs that are submitted before coordination between the shipper and the receiver has been completed, shippers only complete those TSR blocks for which they have accurate information. The complete TSR with all of the required information must be submitted not later than 30 days before the proposed shipping date to be considered for convoy deployment.

23. Contractors must provide subject matter experts to serve on Transportation Safety Review Panels as requested by the Director, NNSA Service Center.

24. Contractors must, when requested, support DOE in its appraisals of others.

25. Contractors who must transport special assemblies offsite must be in the possession of a NNSA Service Center-issued authorization (OTA) or an exemption that is granted by the DADP.

26. Contractors who must transport a Type B package offsite must be in the possession of a NNSA Service Center-issued authorization (OTC).

27. Contractors who cannot meet the requirements of this CRD may apply for an exemption to the DADP through their operations or field offices.

28. Contractors that present nuclear explosives for offsite transport must comply with the requirements in DOE O 452.1B, *Nuclear Explosive and Weapon Surety Program,* dated 8-6-01, and DOE O 452.2B, *Safety of Nuclear Explosive Operations,* dated 8-7-01.

29. Contractors that present special assemblies for offsite transport must comply with the requirements of DOE O 452.2B and DOE O 452.1B.

30. Contractors that conduct onsite transfers of nuclear explosives must comply with DOE O 452.2B and DOE O 452.1B.

31. Contractors must comply with the safeguards and security requirements contained in the following for offsite transportation and onsite transfers:

    a. DOE O 470.1, *Safeguards and Security Program,* dated 9-28-95;

    b. DOE O 471.2A, *Information Security Program,* dated 3-27-97;

    c. DOE M 471.2-1C, *Classified Matter Protection and Control Manual,* dated 4-17-01;

    d. DOE O 473.2, *Protective Force Program,* dated 6-30-00;

    e. DOE O 474.1A, *Control and Accountability of Nuclear Materials,* dated 11-20-00; and

    f. DOE M 474.1-1B, *Control and Accountability of Nuclear Materials,* for offsite transportation and onsite transfers.

32. Contractors must also comply with DOE Order 473.1. *Physical Protection Program,* dated 12-23-02; DOE M 473.1-1, *Physical Protection Program Manual,* dated 12-23-02; and 10 CFR 712, "Human Reliability Program," for onsite transfers.

33. Contractors who perform packaging and transportation of materials of national security interest work must comply with the policy set forth in DOE P 450.4, *Safety Management System Policy,* dated 10-15-96.

34. Contractors will maintain records and documents in accordance with applicable NRC/DOE/National Archives and Records Administration standards. If such maintenance is addressed in the site's TSD, compliance with the TSD requirements will satisfy this requirement.

35. Contractors must submit an implementation plan detailing the actions required to comply with this CRD, the expected schedule for performance of those actions, an estimated time for achievement of compliance and a cost estimate for implementing the plan. The plan should be submitted to the field organization manager (including operations office, site office, area office, project office, and service center managers) within 6 months of inclusion of this CRD in the contract.

DEFINTIONS FOR THE CONTRACTOR REQUIREMENTS DOCUMENT

a. Category. A designation (Category I,II,III, or IV) of special nuclear materials (SNM) determined by both the quantity and type of SNM or of an SNM location based on the type and form of the SNM and the amount of SNM present. DOE M 474.1.1A, *Manual for Control and Accountability of Nuclear Materials,* dated 11-22-00, provides precise guidance for determining SNM categories.

b. Hazardous Components. Those parts of nuclear explosives or special assemblies that contain hazardous (other than radioactive) materials, as defined in 49 CFR 100-185.

c. Hazards Analysis Report (HAR). A document that is prepared and submitted by an applicant to the NNSA Service Center to support the applicant's request for an authorization to transport offsite special assemblies that contain less than a Type B quantity of radioactive material or no radioactive materials but contain regulated hazardous materials.

d. Hazmat. Hazardous material.

e. Exemption. An exemption is a written permission to perform activities which do not comply with the requirements of this Order. Application for an exemption is approved or disapproved by the Deputy Administrator for Defense Programs and must not be prohibited by law or present an undue risk to the environment, public health and safety, or workers.

f. Nuclear Components. Those parts of a nuclear explosive, special assembly, test part, or subassembly that contain fissile and/or radioactive and other materials.

g. Nuclear Explosive. An assembly containing fissile and/or fusible materials and main charge high-explosive parts or propellants capable of producing a nuclear detonation (e.g., a nuclear warhead or test device).

h. Office of Secure Transportation (OST). An NNSA organization under the supervision of the Assistant Deputy Administrator for Secure Transportation. It provides the secure transportation of materials of national security interest. Its employees are Federal employees and its equipment is Government owned.

i. Offsite. Any area within or outside the boundaries and jurisdiction of a DOE facility to which the general public has uncontrolled access.

j. Offsite Transportation Authorization (OTA). An NNSA-prepared approval that details regulatory-equivalent transportation configuration, authorized contents, regulatory (addressed by Federal regulations) and emergency response hazards, and transportation restrictions. An OTA always stipulates specific conditions of operations, including required transporter and shipment configuration. An OTA may detail required positive

measures, administrative controls, and a declared maximum number of specified cargoes per calendar year. An OTA may be issued for a one-time shipment or for a transportation campaign over a period of time not to exceed 5 years. An OTA is used because, upon review by the NNSA regulator-package certifying authority, the requirements for issuance of an Offsite Transportation Certificate could not be practically achieved.

k. Offsite Transportation Certificate (OTC). An NNSA-prepared document, analogous to an NRC certificate of compliance, that describes the Type B regulatory compliant package configuration, authorized contents, and transportation restrictions. An OTC authorizes shipment of Type B cargo within the NSA-operated transportation system (Transportation Safeguards System). To ensure shipments are handled in compliance with germane DOE/NRC regulatory limits, an OTC may declare essential positive measures, administrative controls, and a maximum number of specified packagings per transporter. Issuance of an OTC is demonstration of compliance with all essential requisites of public law for the transport of radioactive material, as required by 49 CFR 173.7(d). It may be issued for either a one-time use or multiple uses up to 5 years, at which point it must be renewed.

l. Onsite. Any area within the boundaries of a DOE site or facility to which access is controlled.

m. Other Materials of National Security Interest. Miscellaneous components and materials forms that are recommended for transportation via TSS by responsible program elements and approved for such transportation by the Deputy Administrator for Defense Programs.

n. Package. The packaging, together with its contents, as presented for transport and/or transfer.

o. Safety Analysis Report for Packaging (SARP). The SARP consists of sections on general information; structural, thermal, containment, shielding and criticality evaluations; operating procedures; acceptance tests, and maintenance and quality assurance programs. The purpose of the SARP is to demonstrate compliance with the applicable sections of 10 CFR 71 and 49 CFR 100-185.

p. Shipment. An operational or logistical action involving offsite movement of nuclear explosive, nuclear components, special assemblies or related radioactive and hazardous materials by the Department of Energy through the Transportation Safeguards System, or any Office of Secure Transportation-approved conveyance made under the supervision of the Office of Secure Transportation.

q. Source Material. Natural uranium, depleted uranium, and thorium.

r. Special Assembly. A major assembly of nuclear components that does not constitute a complete nuclear explosive and is not capable of producing a nuclear detonation. Special assemblies include joint test assemblies, laboratory test units, nuclear explosive-like assemblies and trainers.

s. Special Nuclear Material.

(1) Plutonium, uranium enriched in the isotopes 233 or 235, and any other material that NRC pursuant to Section 51 of the Atomic Energy Act, as amended, determines to be SNM, not including source material, or

(2) Any material artificially enriched by any of the foregoing, not including source material.

t. Subject Matter Expert. An individual recognized as having education, knowledge, skills, and experience in a technical specialty field. (For this CRD, a subject matter expert in hazardous materials regulations in the packaging field is an individual skilled in one or more of the areas of nuclear criticality safety, containment, radiation shielding, thermal characterization, structural and materials analysis, quality assurance, or transportation risk analysis.)

u. Transfer. Any onsite transport of material of national security interest, other than those authorized by Bases for Interim Operations and operational safety requirements or safety analysis reports and Technical Safety Requirements, that does not affect public commerce.

v. Transportation Safeguards System. A DOE system managed and operated by the Office of Secure Transportation. It is used for the safe and secure movement of nuclear explosives, nuclear components, special assemblies, special nuclear materials, and other cargo deemed appropriate by responsible organizations and approved by the Deputy Administrator for Defense Programs. Such operations are authorized under the Atomic Energy Act and its amendments.

w. Transportation Safety Analysis Report. A formal safety analysis report for a transportation system. It describes the design, operation, and maintenance of the system and assesses accident response.

x. Transportation Safety Document. A DOE/NNSA-approved, site-specific, manual of plans and procedures which provides guidance, control and definition for the performance of activities related to packaging, transfer, and transportation at the site

y. Transportation Safety Review Panel. A committee, chaired by a Federal employee and composed of persons with appropriate expertise, that performs technical reviews to verify compliance with this Order and makes recommendations for offsite transportation certification or authorization.

z. Transportation Shipping Request. A document provided by the shipper that includes the following information: shipment number, pickup and delivery points, delivery date, quantity and type of packages in shipment, security classification of shipment, the authorization basis, special handling requirements, and hazardous material information.

aa. Transportation System Risk Assessment. Formal documentation that records the hazards, the assessment of the hazards, the analysis methods, and actual analyses and results used to determine the probability and consequences of undesired, but credible, events that could pose risks to the workers, the public, and/or the environment during the proposed offsite transportation of an uncertified package or a special assembly that contains a Type B quantity of radioactive material in a prescribed transportation system and routes.